

## CLAIM LISTING

This listing of claims will replace all prior versions, and listings of claims in the application:

### IN THE CLAIMS

1. (Currently Amended) A method of analyzing a design in a high level modeling system that supports unidirectional links flow, comprising:
  - selecting a link represented by at least a portion of the design to be simulated within the high level modeling system;
  - determining a directionality for the link selected; and
  - in response to determining the link to be bidirectional, emulating the link in the design using first and second unidirectional links within the high level modeling system.
2. (Original) The method of claim 1, in which the emulating represents the second unidirectional link in opposite data-routing orientation relative to the first unidirectional link.
3. (Original) The method of claim 2, further comprising:
  - simulating signal excitation on at least a portion of the design, the portion to model a circuit; and
  - determining results from the simulating signal excitation.
4. (Original) The method of claim 3, in which the simulating and determining results are performed using the emulated first and second unidirectional links.
5. (Original) The method of claim 1, further comprising:
  - responsive to determining a tap interconnect represented by another portion of the design to be coupled to the bidirectional link, emulating the tap interconnect in the design of the circuit system model using at least one unidirectional input line and a unidirectional output line.

6. (Original) The method of claim 5, further comprising emulating the unidirectional output line in parallel relationship to the at least one unidirectional input line.
7. (Original) The method of claim 5, further comprising:
  - simulating signal excitation of at least a portion of the design with the emulated first and second unidirectional links and the emulated tap interconnect; and
  - responsive to the simulating signal excitation, emulating a tri-state buffer in series with the unidirectional input line.
8. (Original) The method of claim 5, further comprising simulating operation of the design with the emulated first and second unidirectional links and emulated tap interconnect, the simulating to comprise:
  - emulating a tri-state buffer in series with the unidirectional input line.
9. (Original) The method of claim 8, the simulating to further comprise:
  - determining an absence of an input signal on each of the first and second unidirectional links; and
  - conditioning an enablement of the emulated tri-state buffer on determining the absence of an input signal on each of the first and the second unidirectional links.
10. (Original) The method of claim 5, further comprising:
  - simulating operation of at least a portion of the design with the emulated first and second unidirectional links and emulated tap interconnect, the design to model a circuit system, and the simulating to comprise:
    - representing a signal on each of the unidirectional output line and the outputs of the first and second unidirectional links responsive to determining a signal being represented at the at least one unidirectional input line.

11. (Original) The method of claim 10, the simulating further comprising:  
representing a signal on the unidirectional output line and the output of the first/second unidirectional link responsive to a signal being represented at the input of the second/first unidirectional link.

12. (Currently Amended) The method of claim 11, the simulating further comprising:  
identifying a collision event responsive to determining a signal represented at the input of either one of the first ~~[[and]]~~ or second unidirectional links when representing a signal presented to the unidirectional input line.

13-26. (Canceled)

27. (Currently Amended) A computer readable medium having stored thereon computer readable instructions to perform, when executed by a computer in a high level modeling system supporting unidirectional links ~~data flow~~, analysis of at least a portion of a system model by a method comprising:

retrieving from memory data representative of a system model to be simulated within the high level modeling system;

determining if a link represented by at least a portion of the system model is to be bi-directional; and

based on the determining of the link to be bidirectional, modifying the system model by using two separate and oppositely directed, unidirectional links for emulating the bi-directional link within the high level modeling system.

28. (Original) The medium of claim 27, in which the method further comprises:  
simulating signal excitation of at least a portion of the system model modified with the two separate unidirectional links; and  
recording responses from the simulating.

29. (Original) The medium of claim 27, in which the method further comprises:

realizing at least a portion of the system model, the realizing to comprise:  
representing first and second, oppositely directed data-routing, unidirectional lines for a tap to interconnect the bidirectional link,  
representing a tri-state buffer in series with the first one of the unidirectional lines for the tap, and  
representing the tri-state buffer to drive the second one of the unidirectional lines for the tap and the two separate unidirectional links.

30. (Original) The medium of claim 29, in which the method further comprises:  
determining a first signal represented at the first unidirectional line for the tap;  
and  
responsive to the determining of the first signal at the first unidirectional line for the tap, representing a second signal on the second unidirectional line for the tap and the two separate unidirectional links.

31. (Original) The medium of claim 30, in which the method further comprises:  
identifying a collision responsive to determining a signal being represented at an input of either one of the first and second unidirectional links when determining a signal represented at the first unidirectional line for the tap.

32. (New) A method of analyzing a design in a high level modeling system that supports unidirectional links, comprising:  
selecting a link represented by at least a portion of the design;  
determining a directionality for the link selected;  
in response to determining the link to be bidirectional, emulating the link in the design using first and second unidirectional links;  
responsive to determining a tap interconnect represented by another portion of the design to be coupled to the bidirectional link, emulating the tap interconnect in the design of the circuit system model using at least one unidirectional input line and a unidirectional output line; and

simulating operation of at least a portion of the design with the emulated first and second unidirectional links and emulated tap interconnect, the design to model a circuit system, and the simulating to comprise:

representing a signal on each of the unidirectional output line and the outputs of the first and second unidirectional links responsive to determining a signal being represented at the at least one unidirectional input line.

33. (New) The method of claim 32, the simulating further comprising:

representing a signal on the unidirectional output line and the output of the first/second unidirectional link responsive to a signal being represented at the input of the second/first unidirectional link.

34. (New) The method of claim 33, the simulating further comprising:

identifying a collision event responsive to determining a signal represented at the input of either one of the first or second unidirectional links when representing a signal presented to the unidirectional input line.